CLAIMS

1. A method for centering a liquid drop (2) at a given location of a surface (4), characterized in that it consists of forming at this location a flared hollow (6) such that, at any point (CP1) of the contact limit between the drop and the hollow, said hollow has a curvature smaller than or opposite to that of a circle (TC) tangent to the hollow surface at said point and at a symmetrical point (CP2) of this surface.

2. The method of claim 1, characterized in that the flared hollow (6) has the shape of a truncated cone with an axis perpendicular to said surface.

3. The method of claim 1, characterized in that the flared hollow (6) has the shape of the upper central portion of a torus having an axis perpendicular to the surface.

4. A method for centering a liquid drop (14) on the external surface of a convex surface (16), characterized in that it consists of giving this surface at any point (CP1) of the contact limit with the drop a shape such that this surface has a curvature greater than that of a circle (TC) tangent to this surface at this point and at a symmetrical point (CP2) of this surface.

5. The method of claim 4, characterized in that it consists of forming the convex surface (6) by revolution against said axis of an arc of a circle having a radius smaller than that of said tangent circle.

6. A variable-focus lens, including:

a wall made of an insulating material (4),

a drop of a first insulating liquid (2) arranged on an area of a first surface of the wall,

a second conductive liquid (8) covering the first 30 surface and the drop, the first and second liquids being non-miscible, having different optical indexes and substantially the same density, and

means (12) for applying an electric voltage (V) between the conductive liquid and an electrode (10) arranged on the second surface of said wall,

characterized in that the drop is placed in a flared hollow (6) of the wall according to the method of claim 1.

7. The variable-focus lens of claim 6, characterized in that:

the electrode (10) is a sheet metal,

the flared hollow (6) is a truncated cone formed by embossing said sheet metal, centered on an axis (0) perpendicular to the first surface, and the bottom of which is pierced with a centered hole (11), and

the insulating material wall (4) is a transparent plastic film flattened against the electrode and the walls of the hollow, and which covers said hole.

8. The variable-focus lens of claim 6, characterized in that:

the electrode (10) is a sheet metal,

the flared hollow (6) is a truncated cone formed by 20 machining said sheet metal, centered on an axis (0) perpendicular to the first surface, and the bottom of which is pierced with a centered hole (11), and

the isolating material wall (4) is a transparent plastic film flattened against the electrode and the walls of the hollow, and which covers said hole.

9. A method for centering a liquid drop at a given location of a surface, comprising the steps of forming at this location a drop containment cavity surface such that, at any point (CP1) of the contact limit between the drop and the drop containment cavity surface, said surface has a curvature smaller than or opposite to that of a circle (TC) tangent to the drop containment cavity surface at said point and at a symmetrical point (CP2) of this surface.

10. A method as claimed in claim 9, wherein the drop containment cavity surface is rotationally symmetric.

11. A variable-focus lens, comprising:

a drop of a first insulating liquid arranged in a drop containment cavity having a sidewall with a first surface,

a second conductive liquid covering the first drop, the first and second liquids being non-miscible, having different optical indexes and substantially the same density, and

an electric voltage source selectively connectable between the conductive liquid and an electrode arranged on a second surface of said sidewall,

wherein the configuration of the sidewall is such that, at any point (CP1) of a contact limit between the drop and the drop containment cavity first surface, said surface has a curvature smaller than or opposite to that of a circle (TC) tangent to the drop containment cavity first surface at said point and at a symmetrical point (CP2) of this surface.